ABSTRACT

A blind adaptive filtering method for receivers of communication systems without need of training sequences, and whose performance is close to that of the non-blind linear minimum mean square error (LMMSE) receivers with training sequences required in practical environments of finite signal-to-noise (SNR) and data length This algorithm is an iterative batch processing algorithm using cumulant based inverse filter criteria with super-exponential convergence rate and low computational load. The receivers to which the presented algorithm can be applied are (but not limited to) equalizers of conventional time division multiple access (TDMA) digital communication systems, and smart antennas based on space-time processing for wireless communication systems.